

**REMARKS**

Claims 1, 3-4 and 6-17 were previously pending in this application. Claims 2 and 5 were previously canceled without prejudice or disclaimer. Claims 10-17 have been canceled herein without prejudice or disclaimer. Claim 1 has been amended herein. Applicants submit that no new matter has been added by way of the amendment. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

**Claim Rejections – 35 U.S.C. § 102**

Claims 1, 4, 7-8, 10-11, 13 and 15-16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Sakamoto et al., EP 0 990 710 (“EP ‘710”). Applicants have canceled claims 10-11, 13 and 15-16 herein, thereby rendering moot the Examiner’s rejection of these claims under 35 U.S.C. § 102(b). Applicants respectfully submit that claims 1, 4, 7 and 8 are patentably distinct from the cited references.

Amended independent claim 1 recites, inter alia:

A heat-resistant magnesium alloy for casting, the magnesium alloy being good in terms of the castability and heat resistance, and consisting of: calcium (Ca) in an amount of from 3 to 15% by mass; aluminum (Al) in a summed amount of from 4 to 25% by mass with the amount of Ca; manganese (Mn) in an amount of from 0.1 to 1% by mass; the balance being magnesium (Mg) and inevitable impurities when the entirety is taken as 100% by mass and a mass ratio of the Ca amount

with respect to the Al amount, Ca/Al by mass, being  
1 or more.

Applicants submit that EP '710 cannot anticipate amended claim 1 because it does not teach each and every element of this claim. See MPEP § 2131. Specifically, EP '710 is directed to a magnesium alloy forging material with improved heat resistance containing at least aluminum and calcium. Moreover, EP '710 discloses a Ca/Al ratio of 0.8 or less, explaining that a Ca/Al ratio beyond 0.8 abruptly increases the rate of occurrence of cracks in high velocity forging. See EP '710, ¶¶ [0080] – [0082]; see also EP '710, Fig. 4. Notably, the forging material in EP '710 is not restricted to a composition of Mg-Al-Ca or Mg-Al-Ca-Mn, nor does EP '710 require that the Ca/Al ratio be 1 or more. In other words, rather than describing a material with properties being good in terms of castability, the subject matter of EP '710 describes improvements in plastic deformation behavior of a magnesium alloy during forging operations.

For at least the above reasons, Applicants respectfully submit that EP '710 does not teach or suggest each and every element recited in amended independent claim 1 or claims 4 and 7-8 depending therefrom. Accordingly, these claims define patentable subject matter over EP '710. Applicants respectfully request withdrawal of this ground of rejection.

#### **Claim Rejections – 35 U.S.C. § 103**

Claims 1, 3-4 and 6-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Regazzoni et al., U.S. Patent No. 4,997,622, or Faure et al., U.S. Patent No.

5,073,207. Applicants have canceled claims 10-17 herein, thereby rendering moot the Examiner's rejection of these claims under 35 U.S.C. § 103(a). Applicants submit that claims 1, 3-4 and 6-9 are patentably distinct from the cited references, taken either alone or in combination.

Regazzoni et al. disclose a magnesium alloy exhibiting high mechanical strength for use as an extrusion material. Specifically, Regazzoni et al. describe an alloy material in terms of properties and conditions characteristic of extruding processes. Regazzoni et al. are silent as to a magnesium alloy restricted in composition to Mg-Al-Ca or Mg-Al-Ca-Mn and exhibiting properties being good in terms of castability and heat-resistance. In fact, Regazzoni et al. teach away from such an alloy by disclosing a material having a composition of at least zinc and/or calcium for the purpose of withstanding rapid solidification and consolidation by extrusion. Moreover, Regazzoni et al. merely bring into question the corrosion resistance and hardness of an alloy at room temperature.

Furthermore, Faure et al. is directed to economically obtaining a magnesium alloy having improved mechanical characteristics and, in particular, improved corrosion resistance. Importantly, Faure et al. describe zinc and/or a rare earth as being essential elements to the improved magnesium alloy composition. Faure et al., however, does not disclose a magnesium alloy restricted in composition to Mg-Al-Ca or Mg-Al-Ca-Mn and requiring a Ca/Al ratio of 1 or greater.

Applicants, on the other hand, disclose a "heat-resistant magnesium alloy for casting," wherein the alloy is restricted in composition to Mg-Al-Ca or Mg-Al-Ca-Mn.

Advantageously, Applicants' invention improves creep strength by (1) including Al, which is effective for hardness at room temperature and corrosion resistance, but (2) requiring that the given amount of Al never be greater than the amount of Ca contained in the composition. As a result, the Ca/Al ratio must be 1 or greater. None of the cited references teach or suggest such a composition. Accordingly, Applicants submit that a prima facie case of obviousness has not been established.

For at least these reasons, Applicants submit that amended independent claim 1 is patentably distinct from the cited references, taken either alone or in combination. Further, Applicants submit that claims 3-4 and 6-9, which are directly or indirectly dependent from amended independent claim 1, are also patentably distinct from Regazzoni et al. and Faure et al. for at least similar reasons. Therefore, Applicants request withdrawal of these grounds of rejection.

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**CONCLUSION**

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of the claims and allowance of this application.

Respectfully submitted,

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